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Bureau of Land Management

Montana, North Dakota & South Dakota — July 1991

Record of Decision
Vegetation Treatment on BLM Lands
in Thirteen Western States

SB
613
.W4
M667
1991

The Bureau of Land Management is responsible for the balanced management of the public lands and resources and their various values so that they are considered in a combination that will best serve the needs of the American people. Management is based upon the principles of multiple use and sustained yield; a combination of uses that take into account the long term needs of future generations for renewable and nonrenewable resources. These resources include recreation, range, timber, minerals, watershed, fish and wildlife, wilderness and natural, scenic, scientific and cultural values.

BLM-WY-ES-91-032-4320

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United States Department of the Interior

BUREAU OF LAND MANAGEMENT
MONTANA STATE OFFICE
222 NORTH 32ND STREET
P.O. BOX 36800
BILLINGS, MONTANA 59107-6800

TAKE PRIDE IN AMERICA

IN REPLY TO:

SB
613
.W4
M667
1991

July 23, 1991

Dear Interested Party,

Enclosed for your information is my approval of the Record of Decision for the vegetation treatment on BLM lands in Montana, North Dakota, and South Dakota. The enclosed document summarizes the decision's provisions governing the Bureau's integrated management treatment program for undesirable plants and noxious weeds on public lands in Montana, North Dakota and South Dakota. The decision is derived from the Final Environmental Impact Statement (FEIS), titled "Vegetation Treatment on BLM Lands in 13 Western States." The selected alternative (alternative 1 in the EIS) best reflects public involvement received during scoping and on the draft and final EISs.

Release of this decision to interested groups and individuals will serve as public notice of the decision.

Thank you for your cooperation. We look forward to any further comment you may have that will assist us in managing the public lands.

Sincerely Yours,

Robert A. Lawton

State Director, Montana

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222 NORTH 32ND STREET
P.O. BOX 36800
BILLINGS, MONTANA 59107-6800

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IN REPLY TO:

Decision

I approve the Record of Decision for the Final EIS addressing the Vegetation Treatment on BLM Lands in 13 Western States (BLM, May 1991) and its appropriate application to the BLM administered public lands in Montana, North Dakota, and South Dakota.

The public is advised that an integrated approach for the treatment of vegetation will be implemented in the States of Montana, North Dakota, and South Dakota.

BLM projects that an estimated average of 64,460 acres would be treated annually in the States of Montana, North Dakota, and South Dakota using manual, mechanical, biological, prescribed burning, and chemical treatment methods.

Implementation of this program is dependent on the level of funding received annually and the allocations determined by program priority. Prior to project implementation, site specific environmental analyses will be conducted to evaluate treatment project impacts on the resources of the local area.

Robert H. Lawton

July 23, 1991

Robert H. Lawton
State Director, Montana

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
WASHINGTON, D.C. 20240

IN REPLY REFER TO:

I approve and concur in the selection of the Prefered Alternative of the vegetation treatment on BLM lands in 13 western states defined in the attached Record of Decision and analyzed in the Final Environmental Impact Statement, titled Vegetation Treatment on BLM Lands in Thirteen Western States (U.S. Department of the Interior, Bureau of Land Management, May 1991).

8-7-91
Date

Director

I concur in the above decision for vegetation treatment on BLM lands in 13 western states defined in the attached Record of Decision.

8-14-91
Date

Assistant Secretary
Land & Minerals Management

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RECORD OF DECISION

VEGETATION TREATMENT ON BLM LANDS IN THIRTEEN WESTERN STATES

CHAPTER 1 - INTRODUCTION

A Final Environmental Impact Statement (FEIS) entitled Vegetation Treatment for 13 Western States was released to the public June 14, 1991. This document considered and evaluated the impacts of the described vegetation treatment program from a mix of alternative methods of vegetation treatment including burning, biological, mechanical, manual, and chemical treatments.

The Bureau of Land Management (BLM) is required to manage public lands and their resources by the Federal Land Policy and Management Act of 1976 (43 U.S.C.1700 et seq.). This law established policy for BLM administration of public lands under its jurisdiction. The Taylor Grazing Act of 1934 (43 U.S.C. 315 et seq.) introduced Federal protection and management of public lands by regulating grazing on public lands. The Public Rangelands Improvement Act of 1978 (43 U.S.C. 1901 et seq.) required BLM to manage, maintain, and improve the public lands suitable for livestock grazing so that they become as productive as feasible. Two Federal laws direct weed control on Federal lands: the Federal Noxious Weed Act of 1974 (7 U.S.C. 2801-2813), as amended by Sec. 15, Management of Undesirable Plants on Federal Lands, 1990, and the Carlson-Foley Act of 1968 (P.L. 90-583).

In accordance with the National Environmental Policy Act (NEPA), the FEIS identified impacts on the natural and human environment associated with the alternatives, providing a wide range of management options for review and consideration. The alternatives considered in the FEIS address known public concerns and issues. Comments, documents, and suggestions received concerning the FEIS were considered in preparing the Record of Decision presented here.

CHAPTER 2 - THE DECISION AND ITS SPECIFIC PROVISIONS

The decision is to implement an integrated vegetation treatment program for BLM administered public lands. This decision focuses on vegetation treatment methods that include manual, mechanical, biological, prescribed burning and chemical. We shall establish and follow the following vegetation management priorities during the course of meeting our legal mandates in Federal Land Policy and Management Act of 1976 (43 U.S.C. 1700 et seq.); the Taylor Grazing Act of 1934 (43 U.S.C. 315 et seq.); the Public Rangelands Improvement Act of 1978 (43 U.S.C. 1901 et seq.); the Federal Noxious Weed Act of 1974 (7 U.S.C. 2801-2813), as amended by Sec. 15, Management of Undesirable Plants on Federal Lands, 1990; and the Carlson-Foley Act of 1968 (P.L. 90-583). State and county laws commonly place responsibility for noxious weed control on Federal land with the Federal Government. BLM will cooperate with the individual States' noxious weed management acts to the extent funding is available.

This decision is within the scope of the alternatives discussed in the FEIS. For reference purposes, the decision is labelled alternative 1. Alternative 1 maintains flexibility to use all available vegetation management tools. The techniques proposed for use in an integrated management program include preventive actions to avoid or minimize environmental harm resulting from implementation, biological control (includes insects, pathogens, and domestic animals), prescribed burning, mechanical practices, manual practices, and chemical control.

Vegetation management priorities are as follows:

Priority 1

Take actions to prevent or minimize the need for vegetation control when and where feasible considering the management objectives for the site.

Priority 2

Use effective nonchemical methods of vegetation control when and where feasible.

Priority 3

Use herbicides after considering the effectiveness of all potential methods or in combination with other methods of control. Chemicals could be used where the benefits would meet or exceed those of other control methods. The application of chemicals shall meet or exceed BLM and label requirements.

The decision serves two objectives: 1) Protecting human health through measures designed to minimize risks to the general public, BLM employees and contract workers, and 2) Meeting legal mandates for multiple use and sustained yield of public lands and services.

Integrated Pest Management (IPM)

For clarity, this decision expands the Integrated Pest Management (IPM) definition in the FEIS glossary to reflect the generic definition, "IPM is a systems approach to reduce pest damage (unwanted vegetation) to tolerable levels through a variety of techniques, including natural predators and parasites, genetically resistant hosts, environmental modifications and when necessary and appropriate, chemical pesticides (herbicides)". IPM strategies generally rely on a combination of methods as defense mechanisms against pests.

Prevention

The term "prevention" means activities (inspection, regulation, sanitation, education) that will reduce the possibility of the introduction of unwanted vegetation into an area that could interfere with the objectives for managing that area or adjacent lands. Prevention is in contrast to treatment, which refers to activities for controlling or eradicating infestations of competing or unwanted vegetation. Prevention should not be confused with early treatment, which refers to activities for controlling or eradicating existing, small infestations of competing or unwanted vegetation before they interfere with the agency's objectives for managing that area or adjacent lands. The BLM will evaluate preventative strategies for use preferentially where practical and effective.

Herbicides Approved for Use

BLM will use the following herbicides: Atrazine, Bromacil, Bromacil + Diuron, Chlorsulfuron, Clopyralid, 2,4-D, Dicamba, Dicamba + 2,4-D, Diuron, Glyphosate, Glyphosate + 2,4-D, Hexazinone, Imazapyr, Mefluidide, Metsulfuron Methyl, Picloram, Picloram + 2,4-D, Simazine, Sulfometuron Methyl, Tebuthiuron and Triclopyr.

Herbicides Rejected

Two specific herbicides (Amitrole and Dalapon) evaluated in the FEIS will not be used. The toxicity level of Amitrole was determined to be too high for use on public lands and alternatives existed. Producers are no longer manufacturing Dalapon formulations that are registered for use. Therefore, Dalapon may no longer be considered for use.

Selection Criteria for Treatment Methods

Land treatments will be considered for lands administered by BLM to meet vegetation management objectives of an area; such as development and modification of the desired plant community, or serial stage, biological diversity, and removal or reduction of undesirable species and control of noxious weeds, and maintenance of all resources present.

The method of treatment to be used shall be determined by several factors such as environmental impacts, effectiveness of practices in meeting objectives, human health, safety, cost effectiveness, project longevity, and technology available. Each proposed project will be reviewed prior to treatment by completing a project(s) specific environmental analysis.

As technology improves and more biological control agents are tested and proven effective, it is anticipated that herbicide use will decrease for the control of noxious weeds. However new spot infestations will most likely continue to be treated with herbicides or by hand or mechanical methods where complete eradication is the goal.

The cost-effectiveness of each treatment practice will be a major consideration in selecting the treatment method. A lower cost per acre is normally achieved when individual projects are consolidated into one contract. This consolidation reduces the cost of equipment moving to and from the job site. Cost alone will not be the sole determining criterion, but will be weighed together with environmental impacts and available technology on the most effective method to accomplish the desired results. Some practices may be cooperatively planned with other agencies or adjoining landowners in order to take advantage of sharing workforces and lowering the cost of treated areas.

Tree removal will be considered where it is determined that Pinyon-Juniper stands or other woody species no longer meet the desired plant community due to crowding out of understory vegetation important for wildlife and livestock forage and watershed management. First consideration will be given to hand cutting and harvest of woodland products in preference to tree chaining or use of prescribed fire. However, individual tree cutting provides a less favorable site for seedling reestablishment as compared to chaining where the seed can be covered.

Treatment of Pinyon-Juniper or other woody species' lands will be closely monitored by the State Office and District Office staffs. The projects will be evaluated for implementation by the priorities listed below.

Priority 1

Lands where tree canopy has excluded understory vegetation resulting in reduced biological diversity, increased erosion, loss of crucial big game habitat, or the desired plant community is no longer present.

Priority 2

Lands where undesirable trees have encroached onto traditional shrub grass vegetation communities and the desired plant community is no longer present. This priority shall also include previously treated areas on which reinvasion is occurring.

Priority 3

Lands where encroachment of undesirable trees is occurring which will eventually result in loss of the desired plant community.

If volunteers or low cost labor is available, manual treatment methods such as cutting, pulling, scalping and mulching methods may be favored over less environmentally sensitive methods, given the varying site resource characteristics.

Program Size and Scope

The effective term or life of this FEIS is considered to be 10 to 15 years unless new program requirements, new research data, or changing management policy changes dictate the need for a new EIS or a supplement.

The size and scope of the vegetation treatment program depends upon the rate of spread of noxious weeds and undesirable vegetation which can not be accurately predicted. Additionally, treatment goals in approved BLM land use plans and available annual budget to implement these Resource Management Plans (RMP's), or the resource activity plan objectives promulgated from RMP's for various resources such as range, forestry, wildlife, watershed, recreation, and fire management will also impact acreage predicted as needing treatment.

The focus is to utilize the best combination of available treatment methods under an IPM approach to treat undesirable plants and noxious weeds targeted for control, given the affected environment and its conditions, resource impacts involved in treatment, and related costs.

Level of Treatment

The current estimated average annual acreage needing treatment is shown on Table 1- Estimated Average Annual Acres Treated. These treatments serve the improvement and protection needs for the full range of multiple resources found on public lands.

Ongoing Search for Alternatives

The BLM managers and field employees will continue to evaluate the operational feasibility of new research findings on alternatives for IPM, including herbicides. The exploration of new ideas for prevention and treatment of vegetation problems will be encouraged through such cooperative research units as Agriculture Research Service, Forest Service Research Stations, and Universities throughout the FEIS area.

Table 1
Estimated Average Annual Acres Treated in North Dakota, South Dakota and Montana

Treatment Method	North Dakota, South Dakota and Montana
Manual	
Cutting	320
Pulling	100
Scalping	200
Mulching	200
Total Manual	**820**
Mechanical	
Chaining	300
Tilling	2,790
Mowing	1,400
Cutting	180
Roller Chopping	0
Bulldozing	0
Grubbing	0
Blading	0
Drilling Seed	1,360
Total Mechanical	**6,030**
Biological	
Grazing	48,400
Insects	3,100
Pathogens	200
Total Biological	**51,700**
Total Prescribed Burning	**1,400**
Chemical	
Aerial	
Helicopter	1,400
Fixed Wing	0
Ground	
Vehicle	2,205
Hand	905
Total Chemical	**4,510**
Treatment Total	**64,460**
TOTAL BLM ADMINISTERED LANDS[1]	**8,417,283**

[1] Figures were taken from U.S. Department of the Interior, Bureau of Land Management, Public Land Statistics. 1989 edition.

Additional Environmental Analyses

The FEIS provides NEPA compliance by assessing the program impacts of treating undesired vegetation species; the necessity for treatment is determined by BLM's land use plans. Once a treatment project has been identified, site specific environmental analyses for evaluating the treatment project impacts on the specific resources of the local project area will be completed prior to any treatment of undesirable vegetation. The FEIS will also be used to facilitate this analysis process by providing BLM treatment design features, providing impact assessment data for alternative treatment methods, and in overall uniformity of analysis.

The environmental analysis of site treatment plans (including application of categorical exclusions where appropriate) will be conducted at the BLM field office level (District or Resource Area) and will focus on resources that are unique to the specific sites as necessary. During site specific analysis and documentation, public involvement will occur in accordance with the CEQ regulations for implementing NEPA.

All additional analysis will be based on the FEIS and other applicable FEIS's, including those for land use plans, timber management programs, and grazing management programs. If analysis finds potential for significant impacts not already described in an existing FEIS, a supplement or another FEIS may be required.

CHAPTER 3 - ALTERNATIVES CONSIDERED

The alternatives considered and evaluated in the EIS are as follows:

Alternative 1: Proposed Action

All methods of vegetation treatment—manual, mechanical, biological, prescribed burning, and chemical—would be available to treat vegetation under the proposed action. This is the most flexible of all the alternatives because it would allow implementation of the most effective treatment method on each site. An estimated average of 64,460 acres would be treated each year: approximately 9 percent of the acres would be treated with chemicals or prescribed burning initially but this percentage could be reduced as new and effective alternative methods become available.

Alternative 2: No Aerial Application of Herbicides

This alternative allows all five vegetation treatment methods to be used. However, the application for chemical treatment would be restricted to ground-based techniques. The elimination of aerial herbicide application would result in 1 percent fewer acres treated than under alternative 1 because some acres cannot be treated by any other method. This could result in failure to accomplish management goals and/or meet legislative mandates.

Alternative 3: No Use of Herbicides

Herbicides would not be used under any circumstances. About 7 percent fewer acres would be treated, and prescribed burning and mechanical methods would be increased. This alternative is unsatisfactory because of the same reasons as alternative 2, plus the additional burning and mechanical methods would add an additional load of particulates on the air quality.

Alternative 4: No Use of Prescribed Burning

No prescribed burning would be used. About 2 percent fewer acres would be treated, and a decrease of herbicide use would be required (-1%). Some lands would remain untreated.

Alternative 5: No Action (Continue Current Management)

About 58,785 acres would be treated annually. This level does not meet the current management goals for biodiversity, desired plant species, riparian and wetland management, domestic and wildlife forage needs, nor resource stabilization for soil and water.

CHAPTER 4 - DECISION RATIONALE

Statutory Considerations

Statutory mandates that guide BLM actions in managing vegetation on public lands have been disclosed. The BLM must therefore move to control noxious weeds and undesirable plants, to maintain or improve the quality of forests and rangeland for all multiple resources.

Perspective on Methods

As registered by EPA under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), herbicides differ from many other toxic substances. To be registered for commercial sale and public use, herbicides must provide specific economic and social benefits. This is not to say that herbicide use is free from environmental hazard or risk. Indeed, in registering herbicides for commercial sale and public use, EPA must apply another standard under FIFRA, whether the herbicide poses an unreasonable risk to human health or the environment. Each herbicide already enjoys a regulatory finding by EPA that it poses no unreasonable risk to human health or the environment in light of the benefits of its use.

The BLM's decision, cannot and does not end with reliance on EPA's judgments under FIFRA that each herbicide is safe enough to be commercially sold and publicly used. Past studies supporting the registration of commercial products containing the active ingredients proposed for use in the EIS do not always coincide with current protocols for human health research. New studies and disagreement among experts about past studies raise more questions. Yet, still other evidence confirms the studies supporting registration. And, perhaps most important, as the EIS shows, science does not fully inform BLM about the risks involved. After considering the FEIS disclosures, BLM has decided that the herbicides considered for use are safe to use except those deleted as discussed. Of course, safe does not mean risk free. Rather, safe means that each herbicide's environmental hazards and risks are acceptable ones to take. The decision to use the herbicides also results from the determination that forgoing their use substantially compromises BLM's efforts to control or reduce undesirable vegetation. Without treatment increased environmental and other costs would result.

Biodiversity is one of the desired goal of the vegetation management program. Achievement of these goals requires a flexible approach designed on a site-specific basis. Encroachment of some species cannot be contained with herbicides, and other methods such as mechanical must be utilized although this often results in soil disturbance and other negative environmental impacts. It is BLM's decision that where necessary, the short term negative impacts on the soil may result in longer term stabilization of the soil and a more desired diverse plant community. Fire is an important ecological factor in many Western vegetation communities. Where goals may be met with the use of prescribed

factor in many Western vegetation communities. Where goals may be met with the use of prescribed fire, prescribed fire will be used after a plan is developed to mitigate to the extent practicable adverse short-term air impacts and particulate loading. The proposed action provides the flexibility to tailor the treatment to the environment. And, therefore, is the environmentally preferred alternative; to do otherwise would negate BLM's ability to reach management goals.

Manual vegetation treatment is often more desirable and will be used to the extent of practicality and availability of funding and work force.

Biological control is still in its infancy and much research remains to be done. The BLM will sponsor such research as funding permits in the search for more environmentally acceptable alternatives and employ these new techniques as they become available.

Chaining increases protective litter on the ground which reduces erosion potential and provides a mechanical method to cover seed, resulting in improved wildlife habitat and forage for big game and livestock grazing. Where other options do not exist to obtain the desired vegetation composition, it is BLM's decision to use chaining as a management tool. Care will be taken to protect archeological resources and any macrofossils that may be present.

CHAPTER 5 - PROGRAM IMPLEMENTATION FEATURES

Standard Operating Procedures

Safety

The safety of the general public, and employees and contractors of BLM will be a primary consideration when proposing land treatments. Proper protective clothing will be worn by employees as prescribed in manuals.

Reseeding

All seed purchased for reseeding will be tested for purity and noxious weeds. Any seed containing noxious weed seed will be rejected.

Seed mixtures will be determined after consideration is given to the multiple use objectives and biological diversity, soils and ecology of the individual site.

Prescribed Fire

A prescription for each specific site shall be developed to best meet objectives of the vegetation and to enhance or maintain the desired biological diversity.

Biological Control

The BLM Manual 9014 - Biological Pest Control guidelines will be adhered to. Any introductions of biological control agents will be in compliance with USDA - Animal and Plant Health Inspection Service and the individual State Department of Agriculture's guidelines.

Pre-Treatment Surveys

During site specific analysis and preliminary planning of weed management and vegetation treatment a field survey will be completed prior to proposed treatment. This survey will identify target plant species as well as associated plant species, land uses of the area, soil physical and chemical characteristics, water, climatic conditions, proximity to sensitive resources such as threatened and endangered species of plants and animals, riparian habitat, areas of human use, wildlife use and migration, livestock grazing, presence of cultural resources, and any human health hazards which may exist. The project area will be mapped and flagged if appropriate.

Cost Benefit Analysis

Land treatments proposed for livestock forage improvement will be subject to a cost benefit analysis to ensure total benefits gained will equal or exceed the cost of the treatments. The economic analysis will identify the most economical treatment practice. Control of noxious weeds required by law will not be subject to a benefit-cost analysis; however, the most economical and efficient method will be analyzed along with the safety of the proposed kind of treatment.

Environmental Assessment

An environmental analysis will be conducted at the time of the pretreatment survey. An interdisciplinary team will review any analysis needed on individual projects or group of projects.

Archeological - Historic Resources

Projects that may affect areas of historic, cultural, or archeological values will be subject to standard cultural surveys and site clearances. Projects will be modified or altered to protect significant resources if found.

Recreation Sites or Use Areas

Sites proposed for vegetation treatment with herbicides will be treated prior to or after maximum recreation use occurs. Treatment sites with potential for public use, will be posted to notify the public of any hazard that may exist.

Threatened or Endangered Species

Projects that may affect areas of threatened or endangered species of plants or animals will be postponed or site design modified to protect the presence of these species. Section 7 Consultation (as required by the Endangered Species Act) with the appropriate office of the US Fish and Wildlife Service will be initiated.

Wildlife

If herbicides are proposed, those with minimum toxicity to fish and wildlife will be used. Protective buffer zones will be provided along streams, rivers, and lakes and important riparian and xeroriparian areas along dry water courses. Treatment periods will avoid bird nesting season and other critical seasons when loss of cover or disturbance by equipment would be detrimental to wildlife.

Special Management Areas

Areas of critical environmental concern (ACEC) and other special areas will be managed in accordance with land use and activity plans specific to that area.

Project Designs Features

Minimum Width Buffer Strips

If herbicides are proposed for use, buffer strips will be provided adjacent to dwellings, domestic water sources, agriculture land, streams, lakes, and ponds. A minimum buffer strip 100 feet wide will be a provided for aerial application, 25 feet for vehicle application and 10 feet for hand application. Any deviations must be in accordance with the label for the herbicide. Herbicides will be wiped on individual plants within 10 feet of water where application is critical.

When prescribed fire is used, unburned buffers will be left along streams where practical.

Herbicide Application Contract Requirements

Application contracts will contain stipulations to reduce the possibility for herbicide drift and spills. All personnel involved in pesticide application must be trained and licensed. Protective clothing and equipment, as specified on EPA-approved labels and the BLM H-9011-1 Handbook, will be worn by workers directly involved in herbicide applications and by employees using hazardous tools/ equipment.

Soil Protection

Mechanical treatment such as chaining, plowing, roller chopping, bulldozing, and blading shall be conducted so far as practical on the contour to reduce the chance of soil erosion. Tractor operations will be limited to periods of low soil moisture to reduce the chance of soil compaction. The depth of the desired soil disturbance will be site specific. This depth will ensure that any limiting soil physical and chemical properties are mitigated.

Monitoring and Evaluation

Additional procedures have been identified in this Record of Decision based upon the analysis present in this FEIS and are accepted as written. Manual and mechanical treatments will be monitored at regular intervals to determine the quality and quantity of completed work. Prescribed burns and chemical treatments will be monitored in progress for compliance with proper application technique, burn prescriptions, smoke management procedures, and safety procedures as described in the FEIS. Effectiveness of mitigating measures identified in project-specific environmental documents would be monitored through periodic inspections. Air and water quality would be monitored where appropriate.

Post-treatment surveys and evaluations will be conducted to evaluate the effectiveness of the treatment practices used. Information gained will be used to improve future project design.

Process for New Information

As the BLM implements a program for managing undesirable and competing vegetation, it will continue to develop and incorporate new and alternative information and methods with the emphasis on prevention strategies. Over the life of the FEIS (10-15 yrs.), the BLM will analyze any new chemical not analyzed in the FEIS in the same manner as the previously named chemicals prior to use. The use of new or newly available biological agents will also be required to meet the same analysis standards. As new information concerning prevention and management strategies becomes available, this information will be disseminated to the field offices for evaluation and implementation as appropriate.

Interrelationships

The BLM coordinates its weed and undesirable plant treatment activities with actions of related Federal, State and local agencies responsible for resource management and with adjacent landowners and managers.

This section briefly describes interrelationships between this Record of Decision and other BLM programs and agencies as follows:

Other Federal Entities

The BLM coordinates the implementation of the provisions of this Record of Decision with other federal land management agencies, such as the US Fish and Wildlife Service, US Forest Service, National Park Service, Bureau of Indian Affairs, Soil Conservation Service, Animal and Plant Health Inspection Service, and others, when proposed actions may affect areas adjacent to resources managed by these agencies. Agencies with regulatory enforcement responsibilities are recognized and their guidance followed such as the Environmental Protection Agency, regarding chemical treatment involving herbicide application controls.

State and Local Government

Vegetation treatments planned and conducted in association with this Decision will be conducted in accordance with applicable State and local government regulations, including the Sikes Act (16 U.S.C. 670 et seq.), as amended, the Federal Land Policy and Management Act (FLPMA), the Federal Noxious Weed Control Act as amended in Section 15 of Public Law 93-629, and the National Historic Preservation Act. These laws provide direction for BLM to coordinate with appropriate State and County entities and those related weed control agencies and operate in harmony with State and County weed control laws. Often the State and County control laws place responsibility for noxious and undesirable plant control on individual landowners, including the Federal Government. The BLM permittees and grantees operating on public land or within BLM-administered rights-of-ways are required to comply with USDI herbicide-use regulations as identified and prescribed for in this ROD.

Relationship to Existing Management Plans

Existing land use plans (RMP's and related EIS's) will assume the use of all available vegetation management tools prescribed under the IPM program. Those levels and areas identified in those plans form the basis for selection of annual project plans for consideration based on funding and need from one year to the next.

Tiering by Incorporation

The BLM will utilize existing approved EISs or documents that contain relevant assessment information through incorporation by reference in site specific environmental analyses documents and RMP EIS's.

Herbicides Proposed for Use

The site-specific analysis will evaluate any herbicidal treatment proposed for use. The analysis will lead to a decision to supplement the existing EIS/ROD, a finding of no significant impact, or a decision not to proceed with the proposed use.

Public Participation

When a site-specific project to prevent or treat competing or unwanted vegetation with any proposed measure of treatment is being considered, the public will be notified. This notice should precede the scoping stage of the environmental analysis of the project under NEPA guidelines. Notice methods include local newspapers, district and resource area public notices, and public rooms used to distribute public information concerning proposed Bureau actions.

Before a decision is made to proceed with treatment actions such as herbicides, the public will be invited to review and comment on the site-specific analyses for the project. The public is to be notified of the final decision for a site-specific project as soon as it has been made.

CHAPTER 6 - SUMMARY OF ENVIRONMENTAL CONSEQUENCES OF DECISION

Introduction

This chapter discusses the impacts of the BLM proposed vegetation treatment program, described in Chapter 1, of the FEIS. It must be stressed that, because this is a programmatic EIS covering a wide variety of treatment methods over a broad land area, the analysis addresses impacts at a fairly general level. (Site-specific impacts will be addressed in separate Environmental Assessments tiered to this document).

Resources

Vegetation

Vegetation treatments would benefit as well as adversely impact both target and nontarget vegetation within the EIS area.

Some injury or loss of nontarget vegetation may occur from all methods, particularly from herbicide use. Changes in species composition, plant community structure, species diversity, and productivity will result on sites where all vegetation is treated. Some species will be enhanced by treatment; others will be suppressed on the treated site. Treatment method and number of acres treated would determine the degree of vegetation impact. Positive impacts, the principal program objectives, would

include forest and rangeland improvement, wildlife habitat improvement, fuel hazard reduction, selection of desired timber species, watershed protection, and reduction or elimination of populations of noxious weeds.

Manual treatment methods would have minimal adverse impacts on nontarget vegetation.

Normally, mechanical treatment methods would affect woody plants more than herbaceous plants because root-sprouting woody species cannot quickly replace above-ground structure, whereas herbaceous species can replace their canopies annually.

Biological treatments with sheep, cattle, and goats would have slight impacts on a localized basis from feeding on nontarget vegetation to the extent that nontargets are interspersed with target species on a treatment site. Insect and pathogen treatments should have no impacts on nontarget plants because these techniques are species specific.

Prescribed burning could help prevent wildfires by removing fuel ladders and excess litter accumulations. Prescribed burning might decrease total plant productivity on a site but shift species composition from dominance by woody species to dominance by herbaceous species and stimulate new growth of certain woody species.

The impacts of chemical treatments would vary depending on how closely related the target and nontarget species are, the selectivity of the herbicide, and the application time an rate. More sensitive annual plants would be affected to a greater degree than perennials, especially if killed before producing seed, although the ability of many plants to maintain viable seeds in the soil for several years should reduce the susceptibility of these plant species to herbicides.

Air Resources

The most significant impact to air quality would be moderate, short-term increases in dust and exhaust generated by manual and mechanical treatment methods, smoke and particulates from prescribed burns, and chemical drift from herbicide applications. Air quality standards would not be violated. The aircraft and equipment used in vegetation treatments would create temporary, localized noise.

Soils

The impacts of manual and biological treatments on soils would be negligible. Chemical treatments would not adversely impact soils directly but could indirectly affect soil microorganisms. Mechanical and prescribed burning treatment methods have the greatest potential to impact soils. Standard operating procedures are expected to minimize the impacts to the soil resources.

Aquatic Resources

Manual and biological treatment methods would have a negligible impact on aquatic resources given the prescribed Standard Operating Procedures (SOP's), design features for treatment and mitigation. Mechanical and prescribed burning treatments would increase short-term erosion. Sedimentation from these treatments could be minimized using SOP's and Best Management Practices (BMP's). Herbicide treatments could cause drift onto surface water; however, the SOP's would minimize this occurrence. Contamination potential from herbicides exists for ground water if SOP's are not followed. The use of screening procedures given in the SOP should eliminate any ground water contamination from herbicides.

Fish and Wildlife

Fisheries and riparian resources are not likely to be significantly impacted under any of the treatment methods, if suggested mitigation is incorporated into the individual treatment proposals. Impacts to wildlife from forage and habitat reductions would likely be temporary and localized, except when permanent vegetation type-conversion is planned.

Cultural Resources

Some of the proposed vegetation treatments, particularly mechanical, could impact cultural resources and traditional lifeways; however, the exact probability of damaging cultural resources and lifeways cannot be determined at the level of analysis possible in a study of this scope. No proposed treatment project will be authorized until specific impacts to cultural resources and lifeways are considered. In keeping with BLM policy, proposed treatments will be modified to avoid significant adverse effects on significant cultural resources and lifeways.

Recreation and Visual Resources

All program alternatives would result in short-term scenic degradation. Recreation areas infested with noxious weeds and poisonous plants would benefit by reducing potential visitor exposure to harmful vegetation species.

Livestock

Livestock should not be directly affected by any of the treatment methods, and the adverse impacts on livestock forage would be short term. Forage production will be maintained or improved, and toxic plants as well as undesirable species will be controlled by the best suited method. Herbicide label requirements will be complied with for grazing of domestic animals.

Wild Horses and Burros

Wild horses and burros would not be adversely affected under any of the treatment methods. They will benefit from any increases in forage quantity and quality produced as a result of treatment.

Special Status Species

The possible impacts to special status plant and animal species are potentially the same as those discussed under vegetation and fish and wildlife. However, analyses completed before any site is treated would identify any special status species at the site, and appropriate measures would be taken to protect those species present. Therefore, the impacts from treatment methods to special status species should be negligible. In addition, treatments such as removal of competing undesirable exotic species would enhance habitats for special status species.

Wilderness and Special Areas

Wilderness and special areas will not be adversely affected by the treatment methods. Undesirable vegetation in wilderness areas and wilderness study areas may be controlled, allowing native plants in the natural ecosystem to compete better. Site-specific impacts to special areas will be addressed further in district or resource area analyses that precede vegetation treatment actions.

Human Health and Safety

Following is a summary of potential human health impacts by vegetation management method.

Manual

Manual methods of vegetation treatment should not affect members of the public because they would not handle any of the equipment involved. Workers, including volunteers, may receive minor injuries using hand tools or major injuries from using power tools.

Mechanical

Mechanical methods would not affect members of the public. Workers, including volunteers, would be at risk of the same types of injuries that agricultural or construction workers might incur when using tractors and other heavy equipment.

Biological

Neither members of the public nor workers would be affected by biological methods of vegetation treatment.

Prescribed Burning

Sensitive members of the public and some workers may experience minor ill effects, such as eye and lung irritation, from the smoke of prescribed fires. In addition, workers may suffer burns when igniting or managing prescribed fires, although BLM guidance, policies, and required protective clothing minimize this risk.

Herbicides

The BLM proposed the use of 19 herbicides in the FEIS. Two of the proposed herbicides (Amitrole and Dalapon) will not be used. The toxicity level of Amitrole was determined to be too high for use on public lands. Producers are no longer manufacturing Dalapon formulations. Therefore, Dalapon is no longer considered for use.

None of the remaining 17 herbicides pose a health risk to members of the public from typical exposures in any program area. Exposures to workers involved in herbicide applications were conservatively calculated to avoid underestimation. Workers may be at risk from some herbicides if they receive these exposures. However, mitigation, such as protective clothing and strict adherence to BLM herbicide application guidance, should reduce the actual exposures workers receive to levels that do not pose any significant risks.

Some workers on rangeland are at risk of systemic effects from atrazine, 2,4-D, dicamba, tebuthiuron, triclopyr, and diesel oil; reproductive effects from atrazine, 2,4-D, dicamba, glyphosate, and tebuthiuron; and the theoretical cancer risk from atrazine and 2,4-D is increased.

Under typical conditions of public-domain forest land herbicide applications, no systemic or adverse reproductive effects on members of the public are expected from any herbicide uses. Workers in this scenario are at risk of systemic effects from using 2,4-D and triclopyr; reproductive effects from atrazine and tebuthiuron; and increased cancer risks from atrazine, 2,4-D, and simazine.

Under typical conditions for oil and gas treatment sites, members of the public are not at risk from systemic, reproductive, or carcinogenic effects. Some workers on these sites are at systemic risk from atrazine, bromacil, 2,4-D, simazine, diuron, simazine, and tebuthiuron; and cancer risk from atrazine, bromacil, 2,4-D, and simazine.

On rights-of-way in the typical case, members of the public are not at risk of systemic effects or cancer. Some workers are at risk of systemic effects from atrazine, bromacil, 2,4-D, diuron, mefluidide, metsulfuron methyl, simazine, and triclopyr; reproductive effects from atrazine, diuron, simazine, and tebuthiuron; and carcinogenic effects from atrazine, bromacil, 2,4-D, and simazine.

Members of the public would have no significant systemic, reproductive, or carcinogenic risks from herbicide treatments of recreation and cultural sites. Under typical conditions, workers may be at risk of systemic effects from using atrazine, 2,4-D, and triclopyr; reproductive effects from atrazine and tebuthiuron; and a theoretical increased cancer probability from atrazine, 2,4-D, and simazine.

Synergistic Effects

Synergistic adverse effects could occur as a result of exposure to two or more herbicides. There is data available that substantiate that pesticide combination or combinations with other toxic substances could be synergistic. However, it is unlikely that synergistic effects could occur as a result of exposure to two or more herbicides proposed for use due to the limited incidence of combining 2 or more chemicals.

Hyper-Sensitive Individuals

Hyper-sensitive individuals include children and/or adults who may have preexisting diseases, certain diet characteristics, genetic conditions, medical conditions or other unknown factors that contribute to the condition. Sensitive individuals comprise about 15 percent of the total population, and the probability of exposure to the general public from BLM operations is low.

Inert Ingredients

The EPA has determined that the inert ingredients in the herbicide formulations proposed for use do not support a specific concern for toxicity or risk except for the petroleum distillate used in 2,4-D (Esteron 99) and Triclopyr (Garlon 4). It is believed that the risk analysis on the active ingredients sufficiently characterizes this risk.

Herbicide Carriers

Diesel oil and kerosene had specific toxicological analyses completed in the FEIS. Workers on rangeland are at risk of systemic effects from diesel oil. There would be no significant systemic, reproductive, or carcinogenic risks from the other treatments.

Social and Economic Resources

Employment opportunities would have a minimal increase, regardless of the treatment program implemented. Untreated acreage damages public and private resources, causing economic losses and decreased aesthetic value.

Quality of Information (Data Gaps)

It is at this point in the decision that BLM must acknowledge that the herbicides and formulations data considered for use in the FEIS did not completely dispel the contention that herbicides may constitute a hazard to either the environment or human health. However, the FEIS states that under routine operations the public should not suffer adverse health effects as a result of the agency using any of the herbicides proposed.

The conflicting studies and data gaps giving rise to the discord about whether the herbicides may cause health effects could justify forgoing their use. The rationale is that, because science has failed to establish that the herbicides are completely safe, the inference arises that they may cause adverse health effects. The difficulty with this rationale is that it rests on science's ability to prove negatives, an impossible task in logic. The BLM will not base its decision on propositions that defy logic. Accordingly, unless and until science shows that the herbicides are either in fact unsafe or likely to result in human health effects, the BLM is unwilling to forgo the benefits attending their use.

CHAPTER 7 - ISSUES

Several commentors have suggested that BLM forgo the use of herbicides until it evaluates another choice. The suggestion is that BLM examine other management practices and uses of public lands, including livestock grazing, that may contribute to the presence of undesirable vegetation. This alternative, however, ignores that, given the magnitude of the undesirable infestations, BLM defined its program as mainly performing control or management through conventional means. Given the magnitude of the problem the program's focus is on ameliorating the symptoms. Present management practices and changes in the use of public lands are well beyond the scope of the program BLM defined.

Several comments were received expressing opposition to the practice of chaining Pinyon-Juniper trees. Chaining serves as a useful tool in restoring grasses, forbs, and plants which provide for ground cover, consisting of herbaceous vegetation and shrubs, on those sites where the tree canopy cover has permanently excluded understory vegetation. Encroachment of pinyon-juniper into natural shrub communities has accelerated as a result of fire control. The loss of ground cover increases the soil erosion hazard and results in less habitat and forage for wildlife and livestock grazing.

This decision represents a choice among alternatives with different risks. One alternative for BLM was using herbicides to obtain their benefits in controlling and eradicating undesirable vegetation while accepting the environmental consequences. The other alternative was to avoid the herbicides' hazards to the natural environment and risks to human health while accepting the consequence that BLM's ability to control or manage undesirable vegetation was compromised. In choosing the first alternative, BLM acknowledges it is accepting an alternative that carries with it risk. The environmental risks, though, when placed into perspective, are outweighed by the benefits of using all five methods in an integrated management program to control or manage undesirable vegetation infesting public lands.

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